

U.S. Application No. 10/049 357

Attorney Docket No. SPG6583PIUS

**REMARKS**

Claims 10-14 and 16-20 are pending. Claims 10-14 and 16-20 stand rejected. Claim 18 has been canceled as it depended from a previously canceled claim (claim 15).

**Reply to the Rejection of Claims 10-14, 17 and 20 under 35 U.S.C. § 103(a)**

Claims 10-14, 17 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2002/0071811 to Bhatt *et al.* ("Bhatt") in view of U.S. Patent No. 6,335,003 to Kim *et al.* ("Kim"). For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 10-14, 17 and 20 as being unpatentable over Bhatt in view of Kim.

As previously noted, Bhatt is directed towards aerosol and non-aerosol hair spray compositions containing hydrophilic, carboxylated polyurethane resins (p. 2, ¶ 0016; p. 3, ¶ 0030). The carboxylated polyurethane resin is produced by the reaction of (a) a polyoxyalkylene diol; (b) an alkylene glycol; (c) a diisocyanate; (d) water in an amount of about 0.001% to about 0.95% of the combined weight of the reactants; and (e) a 2,2-di(hydroxymethyl)alkanoic acid, wherein the ratio of NCO (isocyanate) groups to OH (hydroxyl) groups in the water, diol, and glycol mixture is about 0.4 to about 1.1 (p. 2, ¶ 0023; p. 3, ¶¶ 0034 and 0035; claim 1). Bhatt teaches that an amine, such as diglycol amine, can be substituted for at least a portion of the water in the reaction mixture (p. 3, ¶ 0034; p. 4, ¶¶ 0036 and 0037; Polyurethane Resin W Example).

In contrast to Bhatt, the cosmetic composition of the present invention includes a blend of an amphoteric urethane resin having at least one carboxyl group and at least one tertiary amino group in one molecule, and a water-soluble resin other than an amphoteric urethane resin. The differences between the polyurethane resin of Bhatt and the amphoteric urethane resin of the present invention are illustrated in the table below –

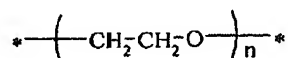
Amphoteric urethane resin of the present invention prepared from the reaction of the following:	Polyurethane resin of Bhatt prepared from the reaction of the following:
(a) polyol chosen from - (i) polyester polyol formed from the polymerization of a dicarboxylic acid	(a) alkylene glycol (¶¶ [0035] and [0042]; no polyol according to the presently claimed invention)

U.S. Application No. 10/049 357

Attorney Docket No. SPG6583P1US

and a polyhydric alcohol (p. 5, lines 12-20), and/or (ii) polyether polyol formed from the polymerization of, e.g., an alkylene oxide and a polyhydric alcohol (p. 5, line 21 – p. 6, line 7)	
(b) polyisocyanate (p. 6, line 8 – p. 7, line 2)	(b) organic diisocyanate ([0035] and [0043])
(c) compound having active hydrogen(s) and carboxyl group(s) (p. 7, lines 3-10)	(c) 2,2-di-(hydroxymethyl) alkanoic acid
(d) compound having active hydrogen(s) and tertiary amino group(s) (p. 7, lines 11-18)	(d) amines can be substituted for a portion of the water in the reaction mixture; no tertiary amines are taught ([0036]-[0037])

The amphoteric urethane resins of the present invention further include structural units derived from ethylene oxide of the following formula –



wherein n is 20 to 120 (p. 9, line 14 – p. 12, line 3). The polyurethane resin of Bhatt is formed utilizing a polyoxyalkylene diol such as a block copolymer of ethylene oxide and propylene oxide ([0035] and [0038]-[0041]).

From the above summary it is seen that the polyurethane resin of Bhatt differs from the amphoteric urethane resin of the present invention in that Bhatt does not include compounds (a) and (d) used in polymerizing the amphoteric urethane resin of the present invention. Specifically, the present invention utilizes a polyol chosen from the reaction product of a polyhydric alcohol and a dicarboxylic acid or an alkylene oxide, whereas Bhatt utilizes an alkylene glycol. Further, as admitted by the Examiner, the present invention utilizes a compound having active hydrogen(s) and tertiary amino group(s), whereas Bhatt only substitutes mono- or diamines for water in its reaction mixture. Accordingly, the polyurethane resin of Bhatt is prepared using at least two different compounds from that used in preparing the amphoteric urethane resin of the present invention. One skilled in the art readily recognizes that the polymerization of different reaction products does not result in the same compounds.

Further, Bhatt does not teach or suggest cosmetic compositions that include both a water-soluble resin and the amphoteric urethane resin. More specifically, with reference to the

U.S. Application No. 10/049 357

Attorney Docket No. SPG6583P1US

presently claimed invention, Bhatt does not teach or suggest water soluble resins that improve the durability (see p. 26 of the present Specification) of a cosmetic composition, particularly in combination with an amphoteric resin.

Water-soluble resins (or polymers) according to the present invention provide durability to the cosmetic composition, a function that the amphoteric polyurethanes are unable to provide. These water-soluble polymers that are blended with the amphoteric resins are described at p. 15, line 3 – p. 18, line 10 of the present application. Compositions according to the present invention can also include other optional ingredients commonly used in cosmetics, such as pigments, colorants, perfumes, surfactants, humectants, preservatives, thickeners, silicone polymer derivatives, etc. (p. 18, lines 14-20). Bhatt lists such other optional ingredients ([0067] – [0069]); however, Bhatt does not teach or suggest water-soluble resins for blending with its polyurethane resin. The Examiner alleges that the optional surfactants and cationic conditioners (cationic surfactant) mentioned in Bhatt are water-soluble resins. One skilled in the art understands that anionic and nonionic surfactants and cationic conditioners are NOT water soluble polymers and would not provide durability (hold) to a cosmetic composition. Rather, such ingredients are utilized to reduce surface tension in a composition. These ingredients, blended together with an amphoteric polyurethane, would not solve the problem of providing a cosmetic composition that provides both touch and durability versus a cosmetic composition having only a water-soluble resin or an amphoteric urethane resin.

Accordingly, Bhatt does not teach cosmetic compositions according to the present invention in that it does not teach (1) the presently claimed amphoteric urethane resin, nor does it teach (2) the water-soluble resin.

Kim is relied upon by the Examiner for its teachings of polyurethane resins wherein diamines and tertiary amines are taught as interchangeable, and therefore one skilled in the art would be motivated to substitute the diamines of Bhatt with the tertiary amines of Kim. As shown above, Bhatt does not teach or suggest the use of the polyol in forming the presently claimed amphoteric urethane resins. Kim likewise does not teach or suggest the use of such polyols in the formation of its cationic polyurethanes. Accordingly, even if one were motivated from Kim to substitute its tertiary amine with the mono- or diamine of Bhatt, one still does not have all the elements used in forming the amphoteric urethane resin of the present invention.

U.S. Application No. 10/049 357

Attorney Docket No. SPG6583PIUS

Further, Kim makes no reference to the use of other water-soluble resins together with its cationic polyurethanes.

For at least all of the above reasons, neither Bhatt nor Kim, alone or in combination, teach or suggest the presently claimed composition and therefore cannot be said to render the present invention obvious.

It is believed that these remarks overcome the Examiner's rejection of claims 10-14, 17 and 20 under 35 U.S.C. § 103(a). Withdrawal, therefore, of the rejection of these claims is respectfully requested.

**Reply to the Rejection of Claims 11-13, 16 and 19 under 35 U.S.C. §103(a)**

Claims 11-13, 16 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bhatt and Kim as applied to claims 10, 14, 15, 17, 18 and 20 above, and further in view of U.S. Patent No. 5,972,354 to de la Poterie *et al.* ("de la Poterie") and U.S. Patent No. 5,100,658 to Bolich *et al.* ("Bolich"). For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 11-13, 16 and 19 as being unpatentable over Bhatt and Kim as applied to claims 10, 14, 15, 17, 18 and 20 above, and further in view of de la Poterie and Bolich.

de la Poterie is cited by the Examiner for its teaching of polyurethane copolymers comprising at least one silicone-containing block (col. 3, lines 16-28). de la Poterie does not teach or suggest amphoteric urethane resins formed from the reaction products of, among other, the presently claimed polyol. Further, de la Poterie does not teach or suggest the use of water-soluble resins in combination with its polyurethane copolymers. For at least these reasons, de la Poterie adds nothing to Bhatt and/or Kim. As such, even in combination, the references fail to teach all the elements of the present invention.

Bolich is cited by the Examiner for teaching silicones in the form of resins as hair conditioners. Bolich does not teach or suggest the claimed amphoteric urethane resins of the present invention. Further, Bolich does not teach or suggest water-soluble polymers for providing cosmetic compositions with improved durability. Instead, the polymers of Bolich serve in rheology modification (thickening), not durability. One skilled in the art would not consider the polymers of Bolich as functioning in improving durability. For at least these reasons, Bolich adds nothing to Bhatt and/or Kim.

U.S. Application No. 10/049 357

Attorney Docket No. SPG6583P1US

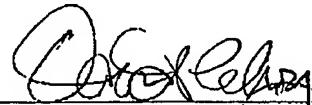
It is believed that these remarks overcome the Examiner's rejection of claims 11-13, 16 and 19 under 35 U.S.C. § 103(a). Withdrawal, therefore, of the rejection of these claims is respectfully requested.

Based on the above amendments and remarks, allowance of the claims is believed to be in order, and such allowance is respectfully requested.

Respectfully submitted,

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